

CLAIMS

What is claimed is:

- 1        1.        An apparatus for dual porting a serial disk drive, comprising:
  - 2        a first idle regenerator connected to a first serial master device, the first idle
  - 3        regenerator being capable of receiving and transmitting signals to the first
  - 4        serial master device including an idle character stream;
  - 5        a second idle regenerator connected to a second serial master device, the second idle
  - 6        regenerator being capable of receiving and transmitting signals to the second
  - 7        serial master device including an idle character stream;
  - 8        a third idle regenerator connected to the serial disk drive and the first and second idle
  - 9        regenerators, wherein the third idle regenerator is capable of communicating
  - 10       with the serial disk drive and the first and second idle regenerators; and
  - 11       a synchronization logic capable of synchronizing data transfers between one of the
  - 12       first idle regenerator and the second idle regenerator, and the third idle
  - 13       generator, wherein the synchronization logic is connected to the first, the
  - 14       second and the third idle regenerators.
- 1       2.        The apparatus for dual porting a serial disk drive of claim 1, further
  - 2        comprising, an auto detector connected to the first and the second idle regenerators,
  - 3        wherein the auto detector is capable of controlling data transfers to the first and the
  - 4        second idle regenerators based on the presence of idle characters from the first and the
  - 5        second serial master devices.
- 1       3.        The apparatus for dual porting a serial disk drive of claim 2, wherein the auto
  - 2        detector is capable of switching between the first and the second serial masters.

1        4.        The apparatus for dual porting a serial disk drive of claim 3, wherein the auto  
2        detector enables communication with a single serial master at a time.

1        5.        The apparatus for dual porting a serial disk drive of claim 1, wherein the dual  
2        porting apparatus is suitable for utilization with a serial advanced technology  
3        attachment disk drive.

1        6.        The apparatus for dual porting a serial disk drive of claim 1, wherein the dual  
2        porting apparatus is suitable for utilization with fibre channel based communication.

1        7.        The apparatus for dual porting a serial disk drive of claim 1, wherein the  
2        synchronization logic is capable of providing synchronization for idle character  
3        switching.

1        8.        The apparatus for dual porting a serial disk drive of claim 1, wherein the dual  
2        porting apparatus is embodied in an application specific integrated circuit.

1        9.        The apparatus for dual porting a serial disk drive of claim 1, wherein the dual  
2        porting apparatus is integrated with the serial disk drive.

1        10.       An apparatus for dual porting a serial disk drive, comprising:  
2        a first idle regenerator connected to a first serial master device, the first idle  
3        regenerator being capable of receiving and transmitting signals to the first  
4        serial master device including an idle character stream;  
5        a second idle regenerator connected to a second serial master device, the second idle  
6        regenerator being capable of receiving and transmitting signals to the second  
7        serial master device including an idle character stream;

8 a third idle regenerator connected to the serial disk drive and the first and second idle  
 9 regenerators, wherein the third idle regenerator is capable of communicating  
 10 with the serial disk drive and the first and second idle regenerators;  
 11 a synchronization logic capable of synchronizing data transfers between one of the  
 12 first idle regenerator and the second idle regenerator, and the third idle  
 13 generator, wherein the synchronization logic is connected to the first, the  
 14 second and the third idle regenerators; and  
 15 an auto detector connected to the first and the second idle regenerators, wherein the  
 16 auto detector is capable of controlling data transfers to the first and the  
 17 second idle regenerators based on the presence of idle characters from the  
 18 first and the second serial master devices.

1 11. The apparatus for dual porting a serial disk drive of claim 10, wherein the dual  
 2 porting apparatus is suitable for utilization with a serial advanced technology  
 3 attachment disk drive.

1 12. The apparatus for dual porting a serial disk drive of claim 10, wherein the auto  
 2 detector enables communication with a single serial master at a time.

1 13. The apparatus for dual porting a serial disk drive of claim 10, wherein the dual  
 2 porting apparatus is suitable for utilization with fibre channel based communication.

1 14. The apparatus for dual porting a serial disk drive of claim 10, wherein the  
 2 synchronization logic is capable of providing synchronization for idle character  
 3 switching.

1 15. The apparatus for dual porting a serial disk drive of claim 10, wherein the dual  
 2 porting apparatus is embodied in an application specific integrated circuit.

1        16.     The apparatus for dual porting a serial disk drive of claim 10, wherein the dual  
2        porting apparatus is integrated with the serial disk drive.

1        17.     An apparatus for dual porting a serial disk drive, comprising:  
2        a first means for regenerating an idle character stream, connected to a first serial  
3                master device, wherein the first idle generating means is capable of  
4                transmitting and receiving signals to and from the first serial master  
5                device;  
6        a second means for regenerating an idle character stream, connected to a second serial  
7                master device, wherein the second idle generating means is capable of  
8                transmitting and receiving signals to and from the second serial master  
9                device;  
10       a means for communicating serial disk drive data connected to the serial disk drive,  
11               the drive communication means being connected to the first and the  
12               second idle data stream means, wherein the drive communication means is  
13               capable of generating an idle data stream; and  
14       a means for synchronizing communications between the first and the second idle  
15               regenerating means and the disk drive communication means.

1        18.     The apparatus for dual porting a serial disk drive of claim 17, further  
2        comprising an automatic detector means capable of controlling the enabling of the  
3        first and the second idle regenerating means based on the presence of idle characters.

1        19.     The apparatus for dual porting a serial disk drive of claim 18, wherein the  
2        automatic control means enables a single idle regeneration means at a time.

1 20. The apparatus for dual porting a serial disk drive of claim 17, wherein the  
2 apparatus is suitable for utilization with a serial advanced technology attachment disk  
3 drive.

1 21. The apparatus for dual porting a serial disk drive of claim 17, wherein the dual  
2 porting apparatus is suitable for utilization with fibre channel based communication.

1 22. The apparatus for dual porting a serial disk drive of claim 17, wherein the  
2 apparatus is embodied in an application specific integrated circuit.

1 23. An apparatus for dual porting a serial advanced technology attachment disk  
2 drive for utilization in fibre channel based communication, comprising:  
3 a first idle regenerator connected to a first serial master device, the first idle  
4 regenerator being capable of receiving and transmitting signals to the first  
5 serial master device including an idle character stream;  
6 a second idle regenerator connected to a second serial master device, the second idle  
7 regenerator being capable of receiving and transmitting signals to the second  
8 serial master device including an idle character stream;  
9 a third idle regenerator connected to the serial disk drive and the first and second idle  
10 regenerators, wherein the third idle regenerator is capable of communicating  
11 with the serial disk drive and the first and second idle regenerators;  
12 a synchronization logic capable of synchronizing data transfers between one of the  
13 first idle regenerator and the second idle regenerator, and the third idle  
14 generator, wherein the synchronization logic is connected to the first, the  
15 second and the third idle regenerators; and  
16 an auto detector connected to the first and the second idle regenerators, wherein the  
17 auto detector is capable of controlling data transfers to the first and the

18                   second idle regenerators based on the presence of idle characters from the  
19                   first and the second serial master devices.

1       24.     The apparatus for dual porting a serial disk drive of claim 23, wherein the auto  
2       detector enables communication with a single serial master at a time.

1       25.     The apparatus for dual porting a serial disk drive of claim 23, wherein the dual  
2       porting apparatus is embodied in an application specific integrated circuit.

1       26.     The apparatus for dual porting a serial disk drive of claim 23, wherein the dual  
2       porting apparatus is integrated with the serial disk drive.